

REMARKS

The present application was filed on April 15, 2004 with claims 1 through 25. Claims 1 through 25 are presently pending in the above-identified patent application.

In the Office Action, the Examiner rejected claims 1, 6, 7, 9-11, 13-16, 18, 20, 21 and 23-25 under 35 U.S.C. §102(b) as being anticipated by Wright et al. (United States Patent Number 6,365,146). Claims 2-5, 8, 12, 17, 19 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wright et al.

Independent Claims 1, 16 and 25

Independent claims 1, 16, and 25 were rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. Regarding independent claims 1, 16 and 25, the Examiner asserts that Wright et al. disclose an amplifier circuit comprising a predistorter that processes an input signal $\{V_m(t)\}$ based on one or more static coefficients (data in 70) representative of a non-linear distortion characteristic of an amplifier (60); and a non-linear gain parameter (data in 70) that reduces an error metric $\{X_+(t)\}$ between the input signal $\{V_m(t)\}$ and a feedback signal $\{V_f(t)\}$ following the amplifier (60), and an adaptive circuit (70) that adjusts the non-linear gain parameter based on the error metric $\{X_+(t)\}$.

Applicants assert, however, that the coefficients stored in the *adaptive* control processing and compensation estimator (ACPCE) 70 are *dynamic* coefficients. As shown in FIG. 3, the coefficients stored in the ACPCE 70 are employed by the Predistortion FIR Filter 52A, shown in more detail in FIG. 4A; the IQ Modulator 52B, shown in more detail in FIG. 4B; and the Integration FIR Filter 52F, shown in more detail in FIGS. 5 and 6A/6B. In each case, the n coefficients are *updated*. (see, for example, “filter tap updates” in FIG. 4A, and “correction coefficient updates” in FIG. 4B). For example, if there are n filter tap coefficients (as in FIG. 4A or 5), then all n coefficients are *updated*, multiplied by a signal (the input signal $\{V_m(t)\}$ in FIG. 4A or $x(t)$ in FIG. 5), and then the products are added together.

As set forth in Col. 8, lines 28-37 of Wright et al.:

The *Adaptive* Control Processing and Compensation Estimator (ACPCE) 70 computes and eliminates the time delay difference between digital samples of the observed amplifier output and the ideal input signal. Once this has been

achieved the ACPCE 70 can accurately determine the *update adjustment*, if required, that is to be made to the correction coefficients being used by the Digital Compensation Signal Processing (DCSP). Update adjustments are provided to the DCSP via a state parameter update $x_+(t)$ that contains one or more sets of correction parameter updates. (emphasis added).

Thus, since Wright et al. are determining “update adjustments” to the coefficients, Wright et al. *teaches away* from the static coefficients required by the present invention. Coefficients that are updated are not “static coefficients,” as would be apparent to a person of ordinary skill in the art.

Independent claims 1, 16, and 25 require that the input signal is predistorted “based on one or more *static* coefficients.” Thus, Wright et al. do not disclose or suggest predistorting the input signal “based on one or more *static* coefficients,” as required by each independent claim 1, 16, and 25.

Dependent Claims 2-15 and 17-24

Claims 2-15 and 17-24 are dependent on claims 1 and 16, respectively, and are therefore patentably distinguished over Wright et al. because of their dependency from independent claims 1 and 16 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.


For example, regarding claims 11 and 21, the Examiner asserts that Wright et al. disclose multiplying the input signal $\{V_m(t)\}$ by a non-linear gain parameter (tap 0 coefficient). Applicants note, however, that the tap 0 coefficient of Wright et al. is a filter coefficient and not a non-linear gain parameter, as required by the claims of the present invention.

All of the pending claims, i.e., claims 1-25, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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